

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004075**Date Inspected:** 24-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China**CWI Name:** Jicheng Zou**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG/ Tower**Summary of Items Observed:**

89M Mock-up

This QA Inspector was informed that ZPMC had finished the welding on MUB-MA21-G/J-25 for the 15mm fillet weld. The information was obtained by the ABF representative Kim Xiao, ZPMC began the welding of MUB-MA21-G/J-25 1347 hrs the root pass was magnetic particle inspected with no linear indications the ABF representative accepted these findings and allowed ZPMC to proceed with the intermediate and cover passes. The welding was completed at 1430 hrs with a recorded temperature of 228°C at 1430 hrs. ZPMC and ABF monitored the cool down rate for the remainder of the shift as this QA inspector performed random observations of this process for documentation up to the end of his shift.

1500 hrs – 219°C

1530 hrs – 190°C

1600 hrs – 186°C

1630 hrs – 158°C

1700 hrs – 153°C

1730 hrs – 148°C

1800 hrs – 142°C

1830 hrs – 124°C

1900 hrs – 108°C

1930 hrs – 89°C

2000 hrs – 78°C

ZPMC used several heating elements located on the back side of the diaphragm plate and both sides of the stiffener to control heat loss during the controlled cool down.

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Tower shop bay 2

This QA inspector randomly observed ZPMC fabrication process in tower shop bay 2 performing the following operations. ZPMC was using automated flame cutting for bevel preparations on multiple components in the front of the tower shop. It was observed that in the rear of bay 2 ZPMC had fit single diaphragm plate for the 9M elevation to East skin plate A. The total diaphragms now fitted are 9M, 18M 23M, 33M, 43M and 47.6M. These components were tack welded in place and braced.

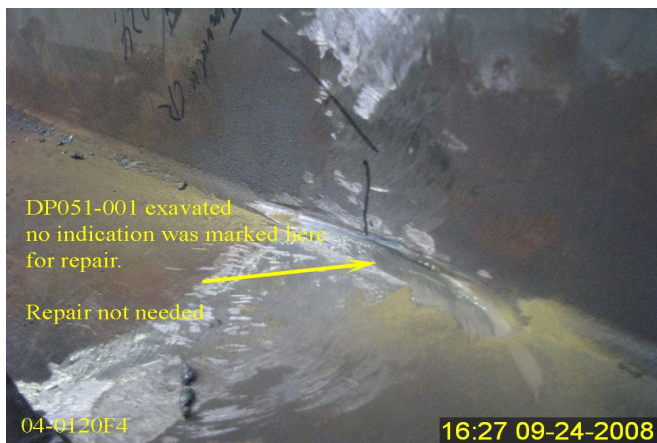
OBG Assembly bay 2

This QA inspector was requested to verify PAUT information for DP026-001 which had been installed at 4AW location. This verification was for the linear indications noted by the phase array ultrasonic testing performed on a previous date. The "Y" locations were re-evaluated and wrote on the close ribs for the identification purpose of repair by ZPMC. The documentation was delivered to the appropriate personnel.

This QA Inspector noted while in OBG Assembly bay 2 that ZPMC had removed the wrong diaphragm plate at the deck panel number DP051-001 and had excavated the tack weld location that were not marked for indications by phase array UT. The appropriate location for removal and excavation as identified by phase array UT was DP050-001 which was also excavated by ZPMC. Both locations require weld repairs by ZPMC.

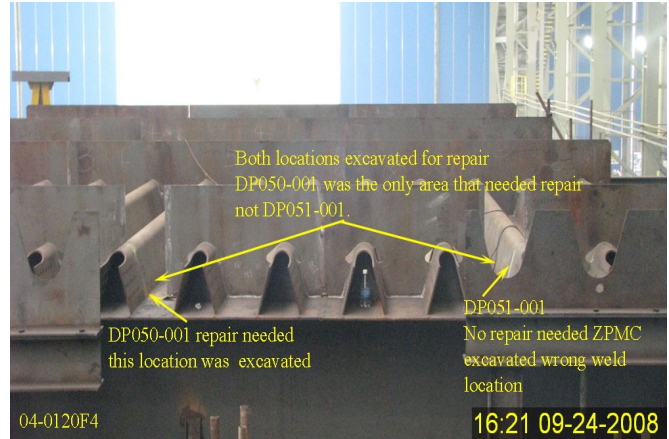
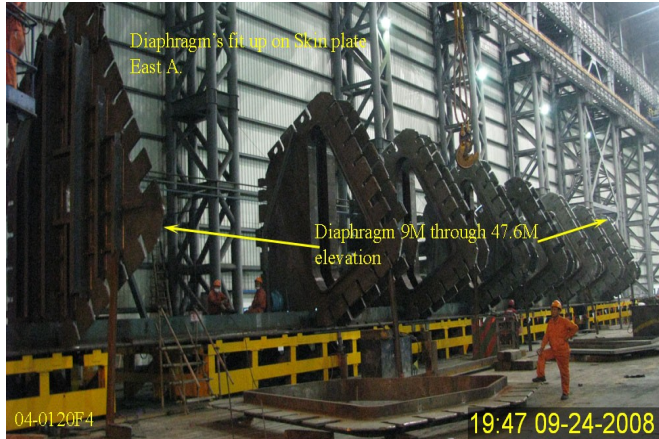
OBG Bay 1

The Caltrans QA observed ZPMC has approximately thirty (30) to forty (40) workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib milling, PJP weld joint beveling, drilling thru holes, press forming, closed rib splice welding, closed rib diaphragm fit-up and FCAW welding of splices, closed rib to deck plate fit-up and tack welding and the PJP welding of closed ribs to deck plates. Deck Plates at the gantry stations were, Gantry-1 DP146-001 tack welded, ZPMC had not performed MT for the tack weld locations at the time of Caltrans QA's observation. DP308-001 had SAW and GMAW completed previously. Gantry 2, DP 335-001 and DP335-002 had been completed and sitting at this station for approximately 48 hours. No welding of deck panels was observed in this bay for swing shift to include the tack welding table which appeared idle.



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Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco , 1-381-694-2685, who represents the Office of Structural Materials for your project.

Inspected By: Riley, Ken

Quality Assurance Inspector

Reviewed By: Carreon, Albert

QA Reviewer